



EPA National Ambient Air Quality Standards for Particulate Matter – Revisions and Implications for Wildland Fire Management



EPA revised the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM). Effective March 15, 2013, please see: <http://www.gpo.gov/fdsys/pkg/FR-2013-01-15/html/2012-30946.htm>.

- 1) Set an annual PM_{2.5} standard of 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), down from the existing annual standard of 15 $\mu\text{g}/\text{m}^3$, established in 1997.
- 2) Retained the existing 24-hour PM_{2.5} standard of 35 $\mu\text{g}/\text{m}^3$, set in 2006, and the existing PM₁₀ standard of 150 $\mu\text{g}/\text{m}^3$, which has been in place since 1997.
- 3) Retained the existing secondary NAAQS of 15 $\mu\text{g}/\text{m}^3$ for annual PM_{2.5}, 35 $\mu\text{g}/\text{m}^3$ for 24-hour PM_{2.5} and 150 $\mu\text{g}/\text{m}^3$ for 24-hour PM₁₀. Did not establish a new standard to protect against visibility impairment of 30 deciviews/24-hour.
- 4) Updated the Air Quality Index (AQI) for PM_{2.5} by converting concentrations for fine particles to a number on a scale from zero to 500 and set breakpoints.

Air Quality Index (AQI)			
Category	Index Values	Previous PM2.5 Levels ($\mu\text{g}/\text{m}^3$, 24-hr average)	New PM2.5 Levels ($\mu\text{g}/\text{m}^3$, 24-hr average)
Good	0 - 50	0.0 - 15.4	0.0 - 12.0
Moderate	51 - 100	15.5 - 40.4	12.1 - 35.4
Unhealthy for Sensitive Groups	101 - 150	40.5 - 65.4	35.5 - 55.4
Unhealthy	150 - 200	65.5 - 150.4	55.5 - 150.4
Very Unhealthy	201 - 300	150.5 - 250.4	150.5 - 250.4
Hazardous	301 - 400	250.5 - 350.4	250.5 - 350.4
	401 - 500	350.5 - 500.4	350.5 - 500.4

- Schedule:**
- a. March 15, 2013 standards officially effective;
 - December 2013 states and tribes recommend area designations to EPA;
 - August 2014 EPA responds to the recommendations (states and tribes comment and provide additional information to modify their recommendations);
 - December 2014 EPA makes final designations;
 - Early 2015 designations effective 60 days from printing in the *Federal Register*;
 - 2018 implementation plans due to EPA; and
 - 2020 states are required to meet the standards but may extend to 2025 due to severity of the nonattainment problem and lack of control measure options.

Implications:

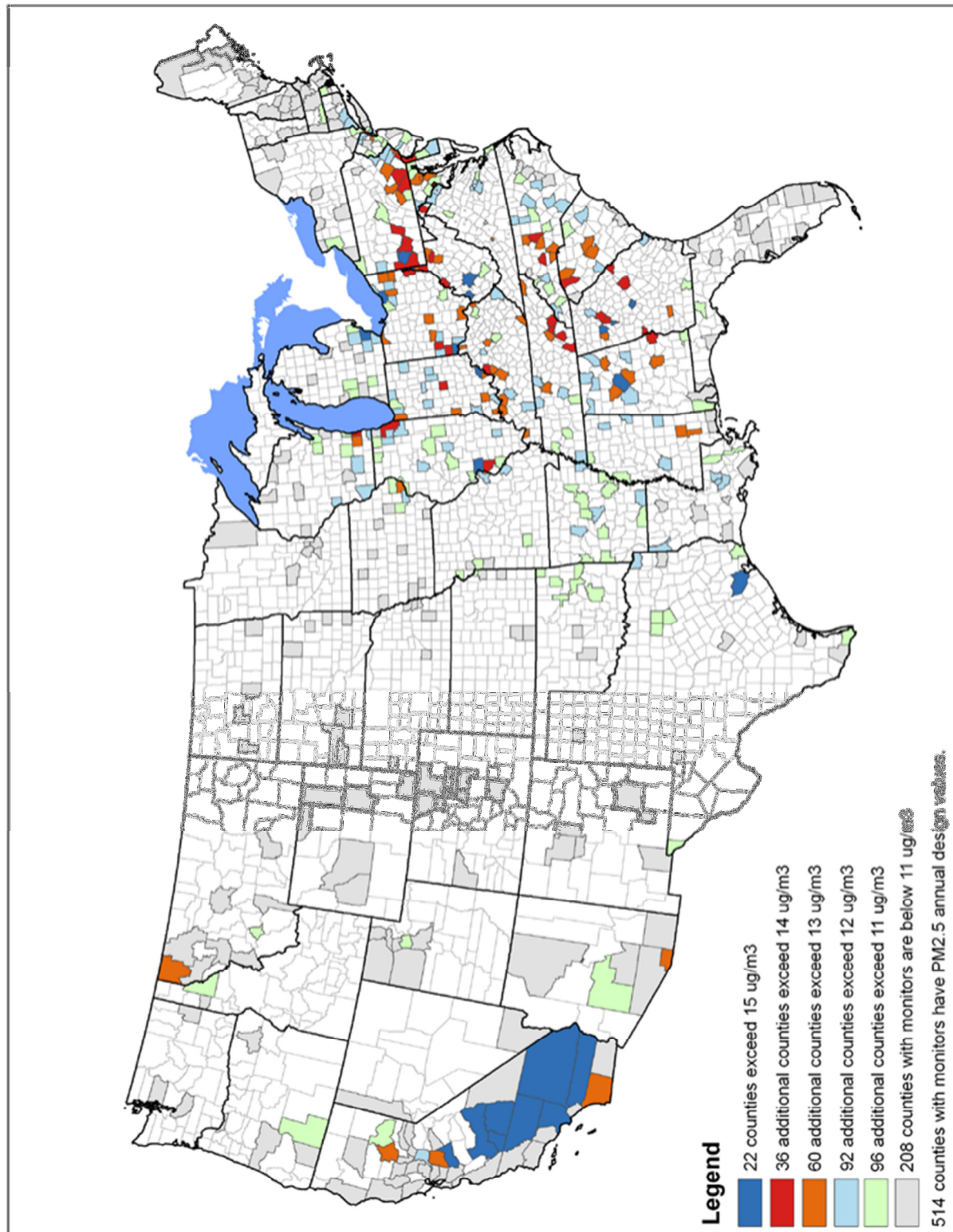
- 1) The lowering of the standard will result in new nonattainment areas which will:
 - a. Require federal agencies using prescribed fire or conducting polluting activities in or near these areas to conduct a General Conformity Determination to ensure that they do not cause or worsen air quality violations or delay timely attainment of the standard and
 - b. Make prescribed burning more difficult in or near these areas as all sources of PM_{2.5} will be under greater scrutiny and impacts will likely be more regulated.
- 2) Tighter standards mean there are more instances when wildfire and prescribed fire could contribute to an exceedance of the standard and a state potentially applies to EPA for an “exceptional event.” The entity that manages the land where the fire occurred and the state regulatory agency will have resource impacts when such impacts occur.



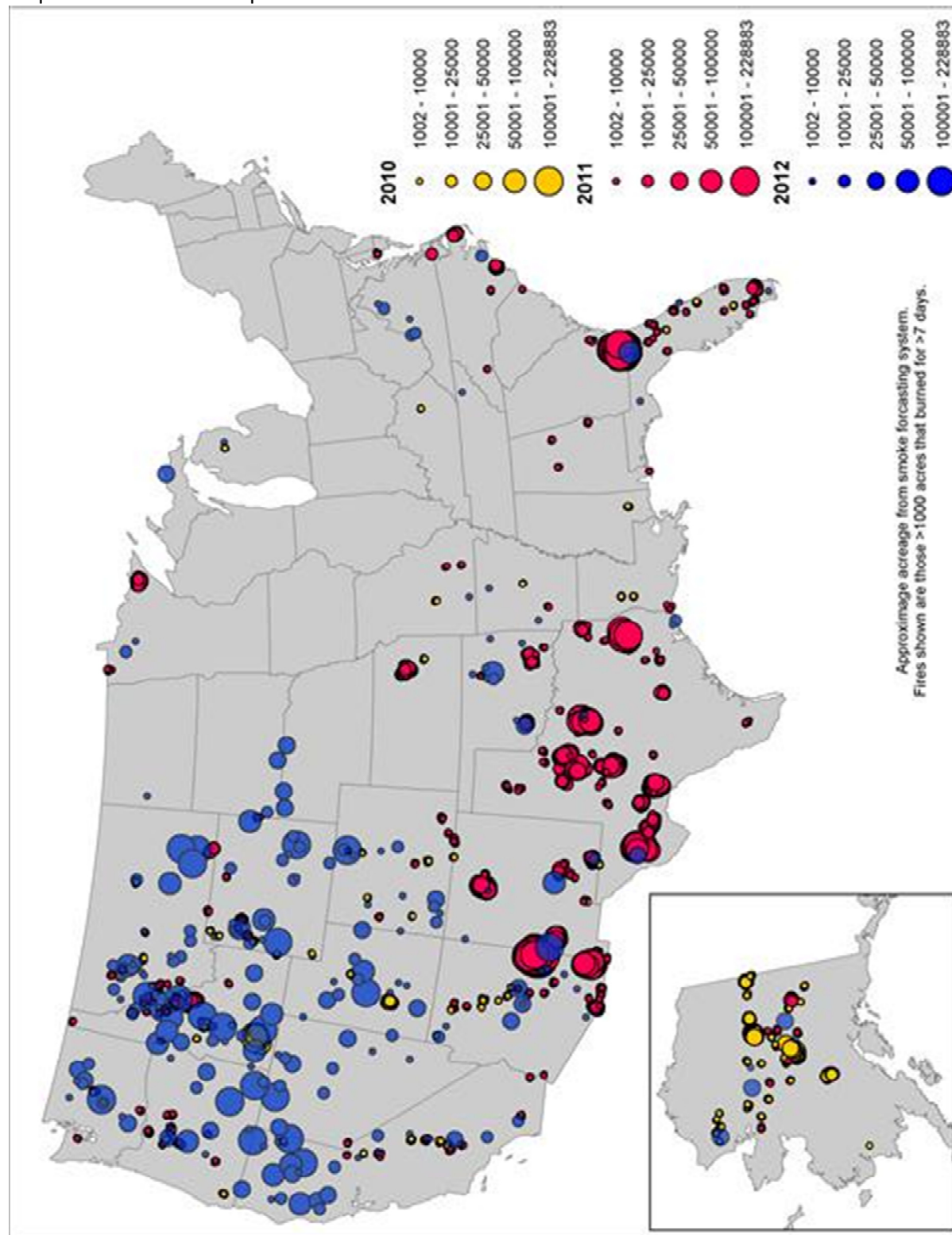
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Map of annual PM_{2.5} values below is based on 2005-2008 PM_{2.5} monitoring data. The designation process in 2013 will use 2010-2012 data PM_{2.5} where wildfire impacts are much greater and so potential for areas to do be improperly designated increases greatly when wildfire activity is high.



The map below shows the persistent and broad-scale proliferation of wildfires 2010-11/2012. These persistent wildfires of these sizes can have substantial impacts on ambient downwind and local particulate matter monitoring data. This figure shows mostly wildfire though some prescribed fires could be present. *Note incomplete data for 2012.



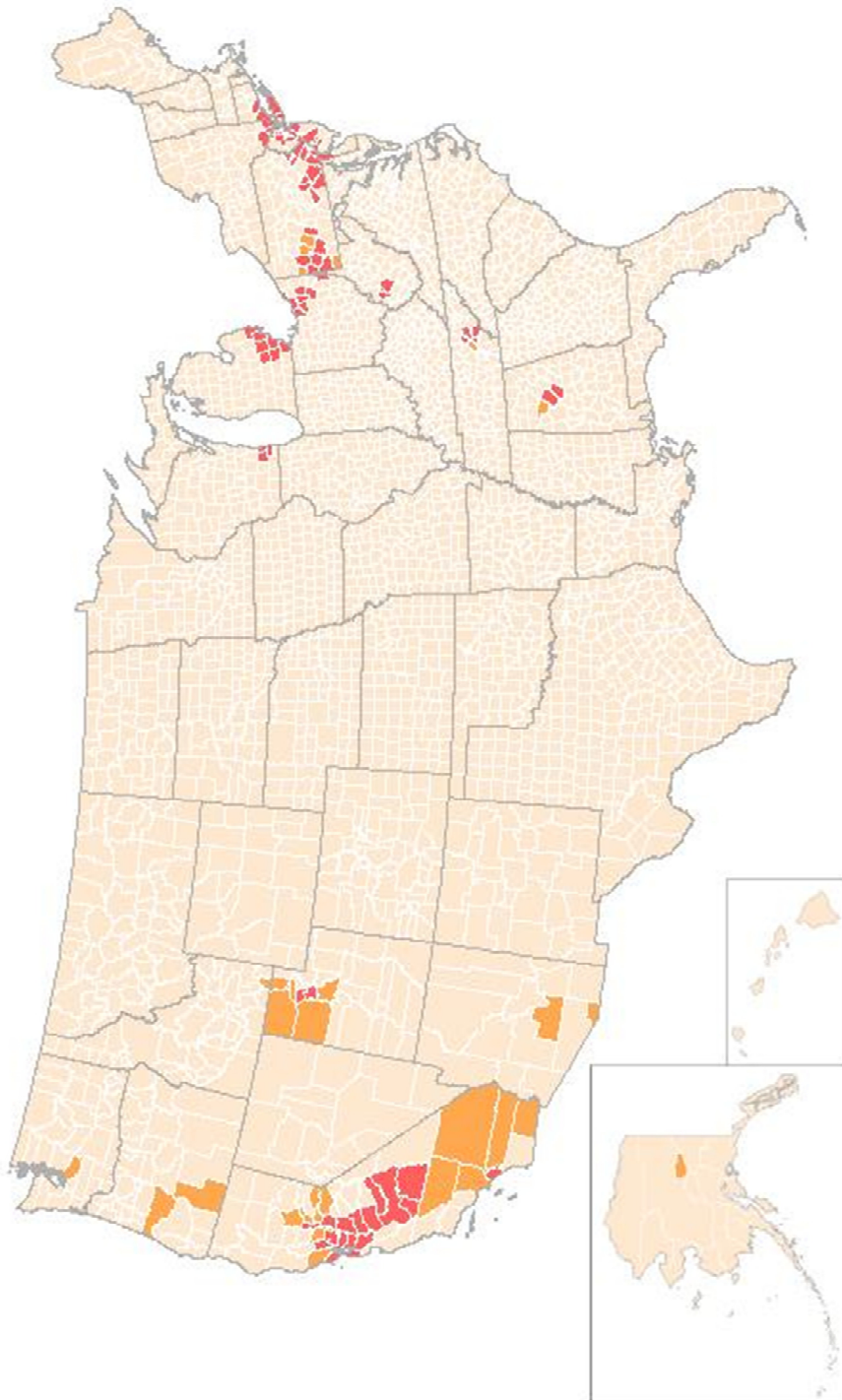


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Existing annual and 24-hour PM_{2.5} nonattainment areas based on the 1997 and 2006 standards.

Map of 24-Hour PM_{2.5} Nonattainment Areas



EPA Designation

- Attainment/Unclassifiable
- Nonattainment - Whole County
- Nonattainment - Partial County